DETROIT COKE CORPORATION
BOX 09229/DETROIT, MI 48209/(313) 842-6222

March 27, 1998

Mr. Allen Melcer, Geologist
Underground Injection Control Branch
US E.P.A. Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: Deep Well Permits MI-167-1W and
MI-167-1W-005

Dear Mr. Melcer:

On February 13, 1998 I wrote you a letter informing you that the Detroit Coke Corporation property had been taken by the State of Michigan for non-payment of back taxes.

With having no control over the property but still having responsibility for the deep wells and it's associated costs, I find it necessary to proceed with the plugging of both No. 2 and No. 3 wells.

I will submit the proper closure plan, as required in the permits, within the next few weeks. I would ask that you make arrangements for release of the trust funds held at National Bank of Detroit to be used for plugging of these wells. I will forward the needed information on these accounts along with the closure plan.

Sincerely,
DETROIT COKE CORPORATION

J. D. Crane
President

JDC/na

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
WU-16J

APR 07 1998

J.D. Crane, President
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Detroit Coke Injection Wells Underground Injection Control (UIC) Permits #MI-163-1W-0004 and MI-167-1W-0005

Dear Mr. Crane:

I have reviewed your letter dated March 27, 1998, stating your intention to plug the above-referenced injection wells. The purpose of this letter is to outline the relevant requirements in your UIC permits regarding closure of the injection wells.

Under Part I.F. of your above-referenced UIC permits, you must receive approval from the Director before closing the wells in accordance with the closure plan found in Part III.B. of the permits. To clarify, this letter in no way constitutes Director's approval to begin closure of the wells. In your March 27, 1998, letter, you state that a new closure plan will be submitted to our office shortly. If the new plan meets all requirements, you will receive written approval to begin implementing the plan.

For the purpose of scheduling, I point out that under Part I.F.2. of your UIC permits, it states that "the permittee shall submit any proposed significant revision to the method of closure reflected in the Closure Plan for approval by the Director no later than sixty (60) calendar days before closure, unless a shorter time period of time is approved by the Director." Thus, plugging of the wells can begin no sooner than sixty calendar days after submittal of the closure plan indicated in your letter and after you have received written approval from the Director.

Finally, in your letter you request that the United States Environmental Protection Agency (USEPA) release the trust funds held at the National Bank of Detroit to be used for plugging the wells. However, the regulations at 40 Code of Federal Regulations §144.52(a)(7) state:

> "The permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director until:
> (A) The well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to §§144.51(o) and 146.10 of this

chapter, and submitted a plugging and abandonment report pursuant to §144.51(p); or

(B) The well has been converted in compliance with the requirements of §144.51(n); or

(C) The transferror of a permit has received notice from the Director that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well.

Thus, the USEPA cannot release the trust funds until one of the conditions listed above has been met, namely that the wells have been plugged and a closure report submitted, the wells have been converted, or the wells have been transferred to new party that has demonstrated adequate financial assurance. The reason the USEPA cannot release the funds until after the wells have been plugged is to ensure that if the permittee suffers a financial setback in the time period after the funds have been released but before the wells have been plugged, the USEPA will still have funds to effect the plugging and abandonment of the wells.

If you have any questions regarding these matters, please contact me at (312) 886-1498.

Sincerely yours,

Allen Melcer

Allen Melcer, Geologist
Underground Injection Control Branch

cc: Nicole Cantello, U.S. EPA, Office of Regional Counsel
Steve Murawski, U.S. EPA, Office of Regional Counsel
Greg Rudloff, U.S. EPA, Waste, Pesticides, and Toxics Division
Ray Vugrinovich, Michigan Department of Environmental Quality
Jeffrey McDonald, U.S. EPA, UIC Branch

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
WU-16J

MAR 17 1998

J.D. Crane, President
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Detroit Coke Injection Wells Underground Injection Control (UIC) Permits #MI-163-1W-0004 and MI-167-1W-0005

Dear Mr. Crane:

This letter is to inform you of your duties and obligations under the above-referenced permits for the two injection wells located at 7819 West Jefferson, Detroit, Michigan. I am in receipt of your letter of February 13, 1998, in which you state that you no longer consider Detroit Coke Corporation ("Detroit Coke") to be the owner/operator of the injection wells and, by extension, that Detroit Coke is no longer responsible for ensuring that the injection wells are in compliance with the current permits. The United States Environmental Protection Agency (EPA) does not share this view. Under Part I.B.1. of the above-referenced UIC permits, it states that "[t]he filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the permittee does not stay the applicability or enforceability of any permit condition." Therefore, although you state in your letter that Detroit Coke is no longer the owner/operator of the wells, your current permits, though expired, remain in full force and effect with Detroit Coke as the permittee.

More specifically, Detroit Coke is responsible for ensuring compliance with the existing permits, including fulfilling all monitoring, testing, and reporting requirements. Noncompliance with the existing permits is a violation of the Safe Drinking Water Act (SDWA). Such violations of the SDWA and UIC regulations are subject to Administrative Orders, a civil penalty of up to $27,500 per day of violation, and criminal penalties of up to 3 years imprisonment and fines in accordance with Title 18 of the United States Code.

Detroit Coke will not be relieved of their responsibility for the UIC permits until either: 1) the injection wells are plugged and abandoned in accordance with the closure provisions found at Part I.F. of the current UIC permits, or 2) the permits have been transferred to another entity in accordance with 40 CFR §144.38.

On a related matter, the question has been posed whether Allied-Signal can monitor and submit reports on the injection wells for Detroit Coke. The regulations state at 40 CFR §144.32 that all

reports required by permits shall be signed by a responsible corporate officer or a duly authorized representative. A person may be designated as a duly authorized representative only if: 1) the authorization is made in writing by a responsible corporate officer; 2) the authorization specifies an individual or a position having responsibility for the overall operation of the regulated facility or activity; and 3) the written authorization is submitted to the Director of the Water Division in Region 5 of EPA. In this instance, Allied-Signal may monitor and record required data for the injection wells, but in order for Allied-Signal to sign and submit the reports to the EPA, all of the conditions outlined above must be met. In short, Allied-Signal must assume responsibility for the overall operation of the regulated facility. If Detroit Coke and Allied-Signal both agree to these conditions, please submit the required letters to the Division Director. Until such time as the request for redesignation of authority has been approved by the EPA, Detroit Coke must sign and certify all reports in accordance with 40 CFR §144.32.

Finally, I have been informed by Paul Choinski that he is no longer employed by Detroit Coke. Please provide the name, mailing address and phone number of the designated agent of Detroit Coke in charge of the injection wells and Corrective Action within ten (10) days of your receipt of this letter.

If you have any questions regarding these matters, please contact me at (312) 886-1498.

Sincerely yours,

Allen Melcer

Allen Melcer, Geologist
Underground Injection Control Branch

cc: Nicole Cantello, U.S. EPA, Office of Regional Counsel
Steve Murawski, U.S. EPA, Office of Regional Counsel
Greg Rudloff, U.S. EPA, Waste, Pesticides, and Toxics Division
Ray Vugrinovich, Michigan Department of Environmental Quality
Tim Metcalf, Allied-Signal Corporation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 16 1998

REPLY TO THE ATTENTION OF:
WU-16J

Paul K. Choinski, Facility Manager
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Information Request for Underground Injection Control (UIC) Permit Applications MI-167-1W-0004 and MI-167-1W-0005

Dear Mr. Choinski:

In processing your UIC permit applications referenced above, I have determined that more information is needed in order for the Environmental Protection Agency (EPA) to reach a decision. Specifically, questions have arisen regarding ownership of the facility and agreements that may have been made regarding operation of the injection wells. The information requested below relates primarily to these issues.

I have been informed by the Michigan Attorney General's office that the Detroit Coke property located at 7819 West Jefferson, Detroit, Michigan, has been taken by the State of Michigan for non-payment of property taxes. I was also informed that Detroit Coke's Right of Redemption on the property has expired. Pursuant to 40 Code of Federal Regulations (CFR) §144.31(e)(4), the applicant must submit the operator's name and ownership status as part of the permit application. Please provide detailed information on Detroit Coke's ownership status with regards to the property in question, including information on any other entities which may have claim to the property. If Detroit Coke is no longer the owner of the property, your response to this request shall also include the name of the new owner, a description of any agreements that are being or have been made between Detroit Coke and the new owner to allow for Detroit Coke's operation of the injection wells, and information regarding the likelihood of Detroit Coke reacquiring the property.

It has also come to my attention that Detroit Coke has entered into an agreement with an entity called Liquid Technologies to operate the injection wells for commercial disposal of liquid wastes. Please be aware that at 40 CFR §144.31(b) it states, "When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit." In order to evaluate the owner/operator relationship between Detroit Coke and Liquid Technologies, please provide a copy of the operating agreement between Detroit Coke and Liquid Technologies.

Next, it is EPA policy to require that the plugging and abandonment (P&A) cost estimate submitted by the applicant as mandated at 40 CFR §144.62(a) be prepared by an independent contractor. The P&A cost estimate provided in your permit application was prepared by your consultant, Petrotek Engineering Corporation. I have learned, through the media, that Detroit Coke has entered into an operating agreement with Liquid Technologies and that the corporate officers of Liquid Technologies are Mr. Ken Cooper and Mr. Rick Lyle, also the corporate officers of Petrotek. Since the P&A cost estimate was prepared by the apparent operators of the injection wells, I do not view it as an independent cost estimate. Please submit a new P&A cost estimate that is prepared by an independent contractor that is not affiliated with Detroit Coke, Liquid Technologies, Allied-Signal Corp., or any other entity that has an owner/operator interest in the facility.

Finally, the certification required at 40 CFR §146.70(d)(2), submitted by Detroit Coke on October 30, 1997, is inadequate. First, the certification statement must contain the specific phrase "Detroit Cokes certifies ...". Second, the statement that Detroit Coke "...feel(s) at this time that this method of disposal of any potential ground water problems is the safest to the environment and human health(.)" lacks both justification and consideration of disposal options available to Detroit Coke. Please submit a new certification that provides 1) certification by the owner or operator; 2) discussion of other ground water disposal options available to Detroit Coke; and 3) justification for the statement that underground injection is that disposal method available to you that is the safest for human health and the environment.

Processing of your permit application by the EPA has been suspended in the absence of the information requested above. Please submit the requested information in a timely manner so that processing of the applications can resume. I remind Detroit Coke that, as stated at 40 CFR §144.40(a)(2), permit renewal applications can be denied due to "(t)he permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts".

If you have any questions regarding these matters, please contact me at (312) 886-1498.

Sincerely yours,

Allen Melcer

Allen Melcer, Geologist
Underground Injection Control Branch

cc: Nicole Cantello, U.S. EPA, Office of Regional Counsel
Steve Murawski, U.S. EPA, Office of Regional Counsel
Greg Rudloff, U.S. EPA, Waste, Pesticides, and Toxics Division
Ray Vugrinovich, Michigan Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
WU-16J

AUG 14 1997

CERTIFIED MAIL P 235 357 857
RETURN RECEIPT REQUESTED

Paul K. Choinski, Facility Manager
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Underground Injection Control (UIC) Permit Applications

Dear Mr. Choinski:

To follow up on our phone conversation of August 7, 1997, regarding the UIC permit applications submitted by Detroit Coke for waste disposal wells #2 and #3, this letter discusses the status of the application review and requests further information so that the review may be completed. Currently, the applications have undergone a second review in response to Detroit Coke's March 6, 1997, reply to my Notice of Deficiency letter. The reply appears to be complete with the exception noted below. One issue which I am investigating is environmental justice (EJ) concerns regarding the siting of a commercial hazardous waste disposal facility in what appears to be a low income, minority neighborhood.

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. The United States Environmental Protection Agency (EPA) is currently conducting a review of the demographics of the community near the Detroit Coke site in order to determine whether the site qualifies as an Environmental Justice area. It is difficult at this time to predict how long it will take to complete this analysis.

For meaningful involvement of the public in the Detroit Coke permitting process to occur, the EPA wants to ensure that all pertinent documents are made available to the public, that the public is adequately informed of the action, and that a public hearing is held on the proposed action. In

order to inform the public of the proposed action, I am going to have copies of the non-confidential portions of Detroit Coke's UIC Permit Reapplication, RFI Workplan and Final Release Assessment Report placed in the Detroit Library branch located closest to the site. Detroit Coke can assist in this effort by determining which is the closest library branch and sending copies of the above-mentioned documents to that location. Please let me know if Detroit Coke is willing to perform this service.

On a related matter, one of the most common questions I receive from the public regarding an underground injection site is "What exactly is being injected?". To help answer this question, UIC permits contain an attachment which describes the source and analyses which will be performed on the waste. Detroit Coke has claimed the waste analysis plan to be confidential business information thus preventing me from including information regarding analysis of waste. I am suggesting that you lift the confidential claim on certain portions of the waste analysis plan to allow me to include that information in your draft permits. I do not propose to include information such as specific sources or types of waste to be injected, I would like to include information such as what types of analysis would a batch of waste undergo and at what frequency (ie., "fingerprint" analysis). Please give me your response to this suggestion as soon as possible so that I can continue crafting Detroit Coke's draft permits.

Finally, in my Notice of Deficiency letter, in accordance with 40 Code of Federal Regulations 146.70(d)(1), I requested that Detroit Coke submit a certification that the generator has a program to reduce the volume or quantity and toxicity of the waste. I also requested that Detroit Coke certify that injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment. Detroit Coke responded that it would prefer submitting such certifications after waste sources have been identified.

The certifications which I am requesting apply only to wastes which are generated on the premises. Thus it does not apply to potential commercial disposal of wastes brought in from off-site. In light of this, I would prefer that Detroit Coke submit a certification that injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment before the draft permits are issued.

Secondly, in the response Detroit Coke states that "[S]hould the waste be comprised of fluids collected during site remediation or otherwise not generated from an on-site industrial process, the company does not anticipate providing a waste minimization plan." Please be aware that 40 CFR 146.70(d) states that the requirements are for hazardous waste injection disposal where the waste is generated on the premises. It does not qualify this requirement for wastes produced by industrial processes only. Therefore, it is EPA's interpretation that this requirement also applies for hazardous wastes generated during site remediation as well. In accordance with 40 CFR 146.70, the certification of the waste minimization plan must be in the permit application prior to

issuing a draft permit. Please provide these two certifications to me so that I may continue crafting the draft permits.

If you have any questions, please contact me at (312) 886-1498.

Sincerely yours,

Allen Melcer, Geologist
Direct Implementation Section
Underground Injection Control Branch

bcc: Nicole Cantello, ORC
Greg Rudloff, WPTD

WU-16J:A.Melcer:A.M.:8/14/97:F'.../dcoke/permprog.wpd"

From: ALLEN MELCER
To: R5AIR.R5ORA.ALLEN-CHERYL
Date: 8/14/97 9:08am
Subject: OPA assistance on UIC permit action

As we discussed on the phone yesterday, I am preparing to issue a permit decision for an Underground Injection Control facility in Detroit, Michigan. I will need someone assigned from OPA to assist on public information, media relations, and the public hearing for this site.

The background on this action is: Detroit Coke is a former coking operation which ceased operation in 1991. They were operating deep injection wells to dispose of waste ammonia liquor from the coking process. They are in the process of conducting RCRA corrective action and want to use the wells for disposing of contaminated ground water during the remediation. They have also requested authorization to use the wells for commercial disposal of hazardous liquid wastes. Community groups and the City of Detroit have all expressed opposition to commercial disposal at the site. The City is trying to redevelop the property under the brownfields and renaissance programs. Community groups have raised the issue of environmental justice as well. The site is in a probable EJ area. we are hoping to have a draft permit decision out for comment in late September.

Call me at 6-1498 if you have any questions.

Thanks,
Allen Melcer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 07 1996

CERTIFIED MAIL P 371 896 313
RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

WU-17J

Mr. Paul Choinski
Facility Manager
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Notice of Deficiency - Underground Injection Control (UIC) Permit Applications #MI-163-1W-0004 and #MI-163-1W-0005

Dear Mr. Choinski:

I have completed my review of the UIC permit applications which you submitted on March 28, 1996. I cannot complete the evaluation of the applications in the absence of the information requested below.

1. Table 1 - Please explain why a depth of 3765 feet below ground surface was used as the top of the injection zone as listed in Table 1. As shown in Figure 5 of your application, the top of the injection zone at the Detroit Coke facility is at an approximate depth of 3286 feet. The top of the injection interval designated for each well is at 4031 feet for Well #2 and at 3750 feet for Well #3.

2. Page 2-3 - Please justify the use of 1750 psi at a depth of 3765 feet for the injection zone pressure. Data from a static pressure survey conducted in Well #2 in June, 1995, indicate that the downhole pressure is 1825 psi at 3850 feet. This converts to 1788 psi at 3765 feet. Further, the value of p^* calculated from the pressure fall-off test run on Well #3 was 1760 psi at 3712 feet, which converts to 1783 psi at 3765 feet. It would appear from the test data that the effective original pressure listed in Table I would be better estimated as approximately 1785 psi at 3765 feet.

3. Table II - Please justify the use of 115 millidarcies (md) for the permeability of the injection interval as this value appears to be anomalously high. Data collected during a fall-off test run on Well #3 on June 7, 1995, indicated the permeability-thickness product (kh) for the injection zone to be 2,492 md-ft. Assuming an injection interval thickness of 123 feet as was done in both the test analysis and permit application, this translates to a permeability of approximately 20 md. Although the application references core data that demonstrated a permeability of 115 md, I place higher confidence in well test data and other in-situ measurements of permeability. If the assumed permeability value of 115 md cannot be adequately substantiated, please recalculate the cone of influence using the kh value obtained during the fall-off test.

4. The final report of the pressure fall-off test conducted in June, 1995, states that a hydraulic fracture exists in the injection interval. However, review of the log-log plot, including the derivative curve, does not seem to show a half-slope line, which would be indicative of linear flow, although noise in the derivative curve before t=0.007 hours makes this somewhat ambiguous. The change in slope seems to be more reasonably associated with a continuous curve than a definite half-slope segment. Based on this review of the test, linear flow, and thus a fracture, is not indicated.

5. To validate and substantiate the assumed values of certain parameters of the injection zone, particularly the permeability of the injection interval, I suggest that the history of injection activities at this site be modeled. The injection zone pressure should be modeled using past injection activity and the recent shut-in period. The modeled value for the injection zone pressure can then be compared to the measured value of 1788 psi at 3765 feet.

6. Page 2-7 - The application states that there have been no additional Class I or Class II wells drilled since the original permit application was submitted which penetrate the injection zone within the area of review. Please provide the sources and the search methodology used to provide the basis for this statement.

7. Area of Review Map - The Area of Review shown on the map is a circle 3 miles in radius. However, the area of review for Class I hazardous waste injection wells as stated at 40 CFR §146.63 is the larger of a 2-mile radius around the well bore or the cone of influence. As discussed in your permit application, the cone of influence for this site is at least 5 miles in radius, and will probably be larger when recalculated using parameter values taken from site well tests. Thus the area of review at this site is a circle with at least a 5 mile radius. Please recalculate the area of review using realistic parameters as discussed in the comments above and then redraw the map to accurately reflect the revised area of review.

8. Topographic Map - Per 40 CFR §146.70(a)(2), the map depicting all wells, dry holes, surface bodies of water, springs, mines, residences, roads, etc must cover the entire area of review. Please revise the topographic map to include the entire area of review after it has been recalculated as discussed above.

9. Cross-Sections - The cross sections should be updated to include information gathered during the drilling of any new wells in the area. In particular, the east-west cross section should include data collected during the drilling and completion of the Environmental Disposal Systems (EDS) well in Romulus, Michigan. At this point, I am not requesting a complete redrawing of Figure 11, however, I am requesting that you "pencil in" the EDS data at the appropriate location on Figure 11 and resubmit it.

10. Waste Analysis Plan - a) As stated in the Waste Analysis Plan (WAP), the nature of the injectate has changed from waste ammonia liquor which was injected in the past to storm water, contaminated liquids from on-site construction and purged groundwater from remedial activities.

It is unclear from the WAP exactly which proposed injected wastes are classified as hazardous. Please provide a list of all hazardous constituents that are proposed to be injected. This list should include all wastes that have been assigned RCRA hazardous waste codes as found in 40 CFR § 261-Subpart D. The list should also include any wastes which classify as hazardous based on characteristic as found in 40 CFR § 261-Subpart C.

b) As you may be aware, on April 8, 1996, the USEPA finalized the Phase Three rule, which provided land disposal ban dates and treatment standards for the remaining toxicity characteristic ("D" code) wastes. Under the current permits, Detroit Coke is allowed to inject hazardous waste without receiving an exemption to the land disposal ban because the hazardous constituents in the waste stream were toxic by characteristic ("D" code) and did not have land disposal ban dates. Now that ban dates have been promulgated for these wastes, Detroit Coke may not inject those wastes after the ban date unless either an exemption to the land disposal ban is granted prior to the ban date or the concentrations of the hazardous constituents in the waste are below the treatment standards as found at 40 CFR § 268.40. A copy of the RCRA hazardous waste codes, including the newly banned wastes, and their ban dates is enclosed. Please review the list of newly banned wastes and treatment standards for those hazardous constituents which you intend to inject and indicate whether Detroit Coke will need a land disposal ban exemption in the future or if the waste will be below treatment standards.

c) The waste stream indicator parameters contained in the current permits were selected at a time when the facility was in operation and were based on the assumption that the ammonia liquor produced by the coking operation was fairly uniform in composition. The new waste streams proposed for injection are not produced by a regular, well documented process and therefore an annual sample of the waste stream is insufficient for characterizing the waste stream. More frequent sampling, most likely on a monthly basis, of each waste stream is necessary to characterize the waste. The list of indicator parameters included in the WAP is adequate for waste stream characterization. Detroit Coke might consider sampling for the entire parameter list annually and for an abbreviated list monthly. The monthly sampling list must contain all hazardous constituents found in the waste stream and contained in the list requested under 10(a) above. To provide further assistance in revising the WAP, I am enclosing UIC Regional Guidance #8, Waste Analysis Plans, for your review.

d) Please provide a representative analysis of each waste stream proposed for injection. For those waste streams which are not now in existence, please provide a list of expected constituents and range of concentrations.

11. Plugging and Abandonment Plan - In accordance with 40 CFR § 146.71, prior to closing the well the permittee must observe and record the pressure decay in the injection zone and determine whether the injection activity has conformed with predicted values, conduct appropriate mechanical integrity tests and flush the well with a buffer fluid. Please revise the closure plan to include these activities. The current closure plan states that 100 gallons of brine will be injected to kill the well. It is not clear if this is also intended to be used as the buffer. If so, the volume

proposed is insufficient. I recommend that at least two casing volumes of fluid be injected as the buffer in addition to the heavy brine used to kill the well. The buffer need not be brine, fresh water is adequate for the buffer.

12. Post-Closure Plan - In accordance with 40 CFR § 146.72, the owner or operator of a Class I hazardous waste injection well must submit a post-closure plan as part of the permit application. Please submit a post-closure plan which conforms to the requirements of § 146.72 enclosed.

13. In accordance with 40 CFR § 146.70(d)(1), the owner or operator of a hazardous waste injection well must certify that the generator of the hazardous waste has a program to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable. The operator must also certify that injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment. Please submit these two certifications along with a new waste minimization plan based on the new facility activities which generate the injection waste stream.

Please submit the above requested information as soon as possible so that I may proceed with the permitting process. If you have any questions, please call me at (312) 886-1498.

Sincerely yours,

Allen Melcer, Geologist
Underground Injection Control Branch

Enclosures

cc: Mr. Tom Godbold, Michigan Dept. of Environmental Quality

bcc: Greg Rudloff, RCRA, DRP-8J
Nicole Cantello, ORC, C-29A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 08 1997

CERTIFIED MAIL P 140 676 441
RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

WU-17J

Mr. Paul Choinski
Facility Manager
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Notice of Deficiency - Underground Injection Control (UIC) Permit Applications #MI-163-1W-0004 and #MI-163-1W-0005

Dear Mr. Choinski:

I have completed my review of the UIC permit application addendum and the waste analysis plan which you submitted on March 15, 1996. In general, the plans appear adequate although I do have the following comments which must be addressed before the plans can be approved.

Permit Application Addendum

1. In order to use the wells for commercial injection, Detroit Coke must have approval from both the United States Environmental Protection Agency and the Michigan Department of Environmental Quality (MDEQ). If you have not already done so, please contact Mr. Tom Godbold, Geological Survey Division, MDEQ, P.O. Box 30256, 735 E. Hazel Street, Lansing, Michigan 48909 to determine what is necessary for Detroit Coke to obtain approval for commercial injection from MDEQ.

2. You should be aware that the State of Michigan requires that commercial hazardous waste injection well facilities apply for and receive a state Resource Conservation and Recovery Act (RCRA) permit for the surface facilities involved in the handling or storage of hazardous waste. Although Detroit Coke is currently applying for the use of the wells for commercial non-hazardous disposal, you indicated that Detroit Coke may pursue authorization for commercial hazardous waste disposal in the future. If you have not done so already, please contact Mr. Kenneth J. Burda, Chief, Hazardous Waste Program Section, MDEQ, P.O. Box 30241, Lansing, Michigan 48909 to request RCRA permit application materials.

Waste Analysis Plan

3. Section 1.C., Page 1-3 - The first paragraph states that existing waste characterization and sampling requirements will be followed with respect to on-site waste sources. In my comments on the waste analysis plan contained in the permit re-application, I stated that the current waste characterization plan was inadequate because of the change in the nature of the injectate. This comment still applies to the on-site waste sources. The following are my comments on the waste

analysis plan from the previous letter:

10. Waste Analysis Plan - a) As stated in the Waste Analysis Plan (WAP), the nature of the injectate has changed from waste ammonia liquor which was injected in the past to storm water, contaminated liquids from on-site construction and purged groundwater from remedial activities. It is unclear from the WAP exactly which proposed injected wastes are classified as hazardous. Please provide a list of all hazardous constituents that are proposed to be injected. This list should include all wastes that have been assigned RCRA hazardous waste codes as found in 40 CFR § 261-Subpart D. The list should also include any wastes which classify as hazardous based on characteristic as found in 40 CFR § 261-Subpart C.

b) As you may be aware, on April 8, 1996, the USEPA finalized the Phase Three rule, which provided land disposal ban dates and treatment standards for the organic toxicity characteristic wastes (RCRA waste codes D018 - D043). Under the current permits, Detroit Coke is allowed to inject hazardous waste without receiving an exemption to the land disposal ban because the hazardous constituents in the waste stream were toxic by characteristic ("D" code) and did not have land disposal ban dates. Now that ban dates have been promulgated for these wastes, Detroit Coke may not inject those wastes after the ban date unless either an exemption to the land disposal ban is granted prior to the ban date or the concentrations of the hazardous constituents in the waste are below the treatment standards as found at 40 CFR § 268.40. A copy of the RCRA hazardous waste codes, including the newly banned wastes, and their ban dates is enclosed. Please review the list of newly banned wastes and treatment standards for those hazardous constituents which you intend to inject and indicate whether Detroit Coke will need a land disposal ban exemption in the future or if the waste will be below treatment standards.

c) The waste stream indicator parameters contained in the current permits were selected at a time when the facility was in operation and were based on the assumption that the ammonia liquor produced by the coking operation was fairly uniform in composition. The new waste streams proposed for injection are not produced by a regular, well documented process and therefore an annual sample of the waste stream is insufficient for characterizing the waste stream. More frequent sampling, most likely on a monthly basis, of each waste stream is necessary to characterize the waste. The list of indicator parameters included in the WAP is adequate for waste stream characterization. Detroit Coke might consider sampling for the entire parameter list annually and for an abbreviated list monthly. The monthly sampling list must contain all hazardous constituents found in the waste stream and contained in the list requested under 10(a) above. To provide further assistance in revising the WAP, I am enclosing UIC Regional Guidance #8, Waste Analysis Plans, for your review.

d) Please provide a representative analysis of each waste stream proposed for injection. For those waste streams which are not now in existence, please provide a list of expected

constituents and range of concentrations.

4. Section 2.B., New Class I Waste Approvals - For clarification, I consider any new waste sources not currently approved in the existing UIC permits, regardless of whether it is generated on-site or off-site, as a new Class I waste that will be characterized in accordance with the procedures outlined in this section.

5. Section 2.C., Periodic Testing - This section states that Class I indicator parameter testing procedure will not be applied to the Class II waste stream, yet the waste analysis plan does not indicate what parameters and sampling frequencies will be used for testing Class II wastes. Please provide tables of sampling parameters and frequencies for the Class II wastes, similar to those provided for the Class I waste sampling parameters.

6. The list of off-site Class I waste sampling parameters should include a statement that any waste constituents not currently on the list which are present in a waste stream in a concentration greater than 0.01% will be added to the list.

7. For the list of approved Class I waste sampling parameters, please revise the sampling frequency for the toxicity parameters from yearly to quarterly.

Please submit the above requested information as soon as possible so that I may proceed with the permitting process. If you have any questions, please call me at (312) 886-1498.

Sincerely yours,

Allen Melcer, Geologist
Underground Injection Control Branch

cc: Mr. Tom Godbold, Michigan Dept. of Environmental Quality
Mr. Ken Burda, Michigan Dept. of Environmental Quality

bcc: Greg Rudloff, RCRA, DRP-8J

Questions and Answers: Underground Injection and the Detroit Coke Permit Applications

Introduction to Underground Injection

The practice of underground injection is used in many of today's industries, including the petroleum industry, chemical industry, food and product manufacturing companies, geothermal energy development, and many local small specialty plants and retail establishments.

A Federal Underground Injection Control (UIC) program was established under the provisions of the Safe Drinking Water Act (SDWA) of 1974. This Federal program establishes minimum requirements for effective State UIC programs. Since ground water is a major source of drinking water in the United States, the UIC program requirements were designed to prevent contamination of Underground Sources of Drinking Water (USDW) resulting from the operation of injection wells.

Background

The Detroit Coke facility, located at the confluence of the Detroit and Rouge rivers, is in southwest Detroit, adjacent to the Zug Island industrial complex (Figure 1). Detroit Coke was a coking facility that produced waste ammonia liquor as a by-product of the coking of coal. The wastestream was disposed of into three on-site Class I hazardous waste injection wells completed in the Munising Formation. The three wells were constructed and operated between 1969 and 1990.

In September of 1990, the Detroit Coke facility was closed down. Since that time, the three injection wells have been used for disposing of ammonia liquor left in tanks at the time of shut down, and for disposing of rainwater which collects on site and in diked areas. In June, 1995, waste disposal well #1 was plugged.

On March 26, 1996, Detroit Coke submitted an application to Region 5 for renewal of their two Underground Injection Control (UIC) permits. The permits are for two existing deep injection wells to allow for the disposal of potentially hazardous contaminated waters as part of the Corrective Action clean-up of the site and to continue disposal of rain water that collects on site. On August 15, 1996, Detroit Coke submitted an addendum to the application requesting that the new permits, if issued, authorize the use of the wells for commercial disposal of liquid non-hazardous wastes. Detroit Coke has applied for hazardous waste disposal permits in case the contaminated ground water is hazardous.

Although Detroit Coke is applying for hazardous waste disposal permits, if the

permits are granted they must still apply for and receive an exemption to the land disposal ban before

they can commence injection of hazardous waste. They are currently applying for commercial disposal of non-hazardous wastes only.

Nature of Injectate

Detroit Coke Corporation intends to utilize the wells for two types of waste stream. The first is for potentially hazardous ground water which is generated on site during the site clean up. The second type of waste stream is commercial disposal of non-hazardous waste. Examples provided by Detroit Coke of the expected commercial non-hazardous wastes include: wash waters from truck and car washes, wash water from county and/or state vehicle and road facilities, pit water from oil field wash pits, reclaimed water associated with the removal of underground storage tanks, non-hazardous leachate from landfills, waters from construction sites, lagoons holding rainfall run-off from a variety of facilities and industrial sites, certain liquids generated as by-products of industrial processes and food processing, and water from ground water remediation operations.

Site Geology

Detroit Coke has applied for authorization to commence commercial operation of two Class I injection wells located in Michigan, Wayne County, T2S, R11E, Section 67, subject to the conditions of the permits. The injection zone, or zone which contains the injectate, for these wells is the Black River, Glenwood, Trempealeau, Eau Claire and Mt. Simon formations between the approximate depths of 3280 and 4280 feet. Injection is permitted into the interval of the Eau Claire and Mt. Simon Sandstones between the approximate depths of 3750 and 4280 feet. The designated confining zone for these injection wells is the Queenston and Utica Shales, and the Trenton Group located between approximately 2300 and 3280 feet below ground surface.

Mechanical Integrity

Detroit Coke has demonstrated the mechanical integrity of both wells in June, 1997. Mechanical integrity consists of a demonstration that there are no leaks in the casing, tubing, packer and wellhead, and a demonstration that there is no fluid movement into an underground source of drinking water through vertical channels adjacent to the wellbore. Detroit Coke is required to demonstrate mechanical integrity of the wells at least once every year in the presence of EPA field inspectors. They are also required to conduct continuous monitoring of injection and annulus pressures to detect a leak should one develop.

Well Construction

A diagram of the well construction can be found with this fact sheet.

Financial Assurance

Detroit Coke maintains adequate financial resources to plug and abandon both underground injection wells by means of two Letters of Credit in the amount of $35,000 each. The plugging and abandonment cost estimate for each well must be updated on an annual basis.

Corrective Action Requirements

Facilities seeking a UIC permit are required to take corrective actions for all releases of hazardous waste or constituents. The objectives of Corrective Action requirements under UIC permits are to:

- Evaluate the nature and extent of the releases of hazardous waste or constituents at the facility;
- Evaluate facility characteristics; and
- Identify, develop, and implement appropriate corrective measures to protect human health and the environment.

Detroit Coke's current UIC permits contain the following requirements in order to accomplish the above objective:

- RCRA Facility Investigation (RFI)

  Detroit Coke must conduct an RFI to evaluate the nature and extent of the release of hazardous waste(s) or hazardous constituent(s) at the facility.

- Corrective Measures Study (CMS)

  If the U.S. EPA determines, based on the results of the RFI and other relevant information, that corrective measures are necessary, Detroit Coke must conduct a CMS. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) which will protect human health and the environment.

- Corrective Measures Implementation (CMI)

  Based on the results of the CMS, the U.S. EPA will select one or more of the Corrective Measures in the CMS for Detroit Coke to implement.

If new UIC permits are issued to Detroit Coke, these corrective action requirements will be included.

RFI RA Sep. 95
RFI WP April 96
OD Aug. 4, 97 ext.
Response Nov. 4, 97
NOD Nov 11, 97 ext.
Response Due Feb 12, 98

If you would like more information about underground injection wells in general, or about the Detroit Coke permit applications specifically, please contact EPA Region 5, either:

Don DeBlasio
Office of Public Affairs
U.S. EPA Region 5 (PI-19J)
77 W. Jackson Blvd
Chicago, IL 60604
Phone: (312) 886-4360

or

Allen Melcer
UIC Section
U.S. EPA Region 5 (WU-16J)
77 W. Jackson Blvd.
Chicago, IL 60604

Glossary

Aquifer: An underground geological formation, or group of formations, containing usable amounts of ground water that can supply wells and springs.

Fracture closure pressure: The greatest pressure at which existing fractures in the rock do not open. At this pressure, no new fractures will be created during injection. Open fractures could allow the injected wastes to leave the injection zone.

Hazardous waste: Discarded materials that can pose a substantial or potential hazard to human health or the environment when improperly managed. Hazardous wastes possess at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity) or appear on special EPA lists. Nonhazardous wastes are any other industrial wastes that do not meet the legal definition of hazardous wastes.

Injectate: The fluid injected into an injection well.

Injection zone: A geologic formation receiving fluids through an injection well.

Injection well: A well into which fluids are injected for purposes such as waste disposal, improving the recovery of crude oil, or solution mining.

Leachate: Water that collects contaminants as it trickles through wastes, pesticides, or fertilizers. Leaching may occur in farming areas, feedlots, and landfills.

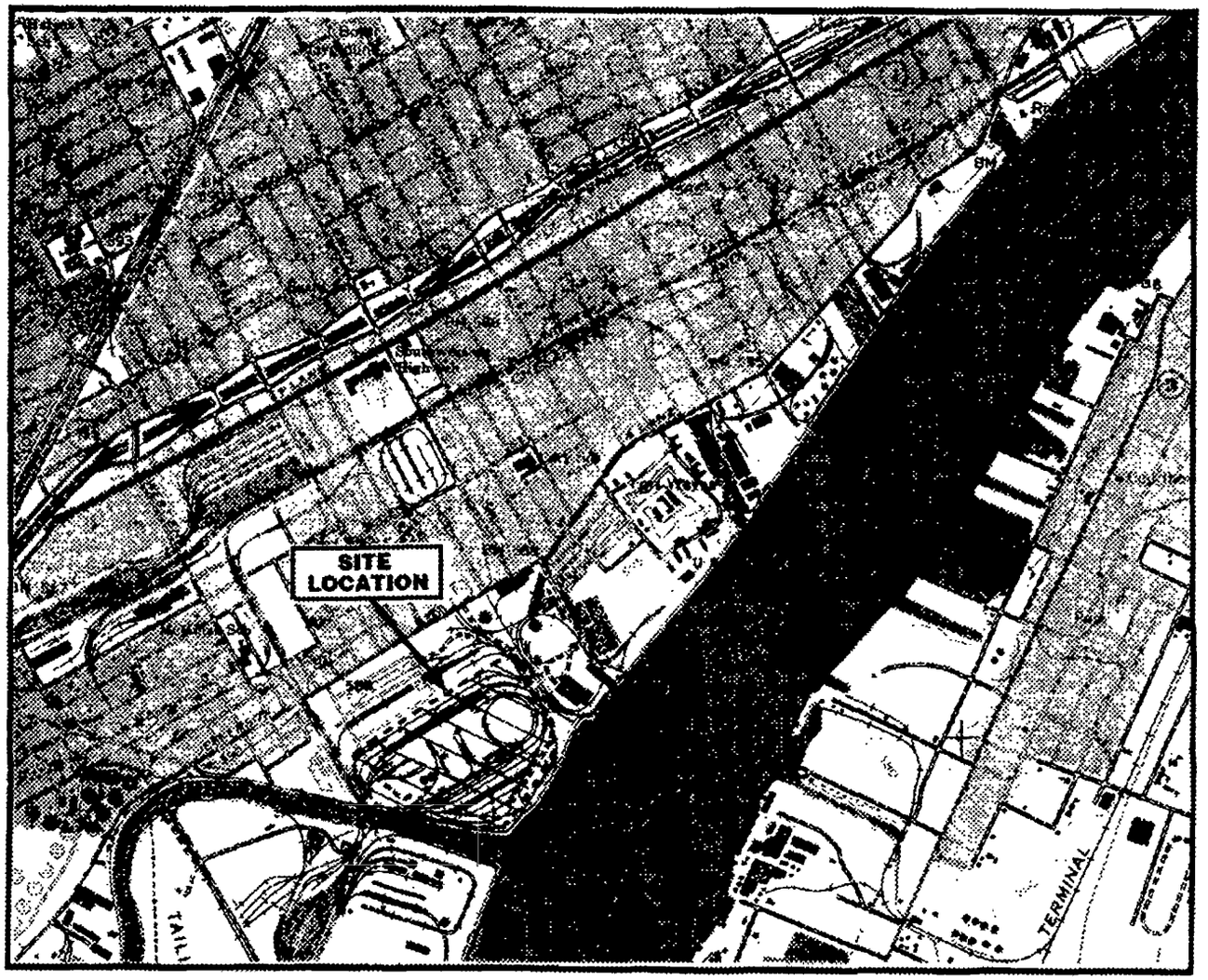
Permeability: The ease with which a fluid, particularly water, can pass through a geologic material.

Rock borings or cores: A rock boring or core is a sample taken from solid rock for the purpose of determining lithology, stratigraphic sequence, geologic thicknesses, and physical properties of the rock. When a boring is made, rock is brought to the surface in bits and pieces which can be sampled and evaluated. When a core is taken, a special hollow bit is used to preserve a continuous, intact section of the rock for evaluation and testing.

Sandstone: Sandstone is a sedimentary rock composed of sand-size particles (the majority of which are usually quartz) that have been transported, deposited and naturally cemented together. Sandstone accounts for about 25 percent of the sedimentary rock in the world.

Underground Source of Drinking Water (USDW): Water underground (as opposed to surface water, such as a lake or river) that can be used to supply drinking water. It includes aquifers currently being used as a source of drinking water or those capable of supplying a public water system. USDW's include aquifers with total dissolved solids content up to 10,000 mg/l. To put this in perspective, water is not suitable for human consumption when it has maximum total dissolved solids content exceeding 500 mg/l.

DCC-SLM/SEP0795



NORTH

HORIZON ENVIRONMENTAL

PROJECT NUMBER: DCC-0101

DETROIT COKE CORPORATION
DETROIT, MICHIGAN

FIGURE: 2-1

SITE LOCATION MAP

SEPTEMBER, 1995

FIGURE 1

Simplified Local Stratigraphic Column for Detroit Coke (WDW No. 1)

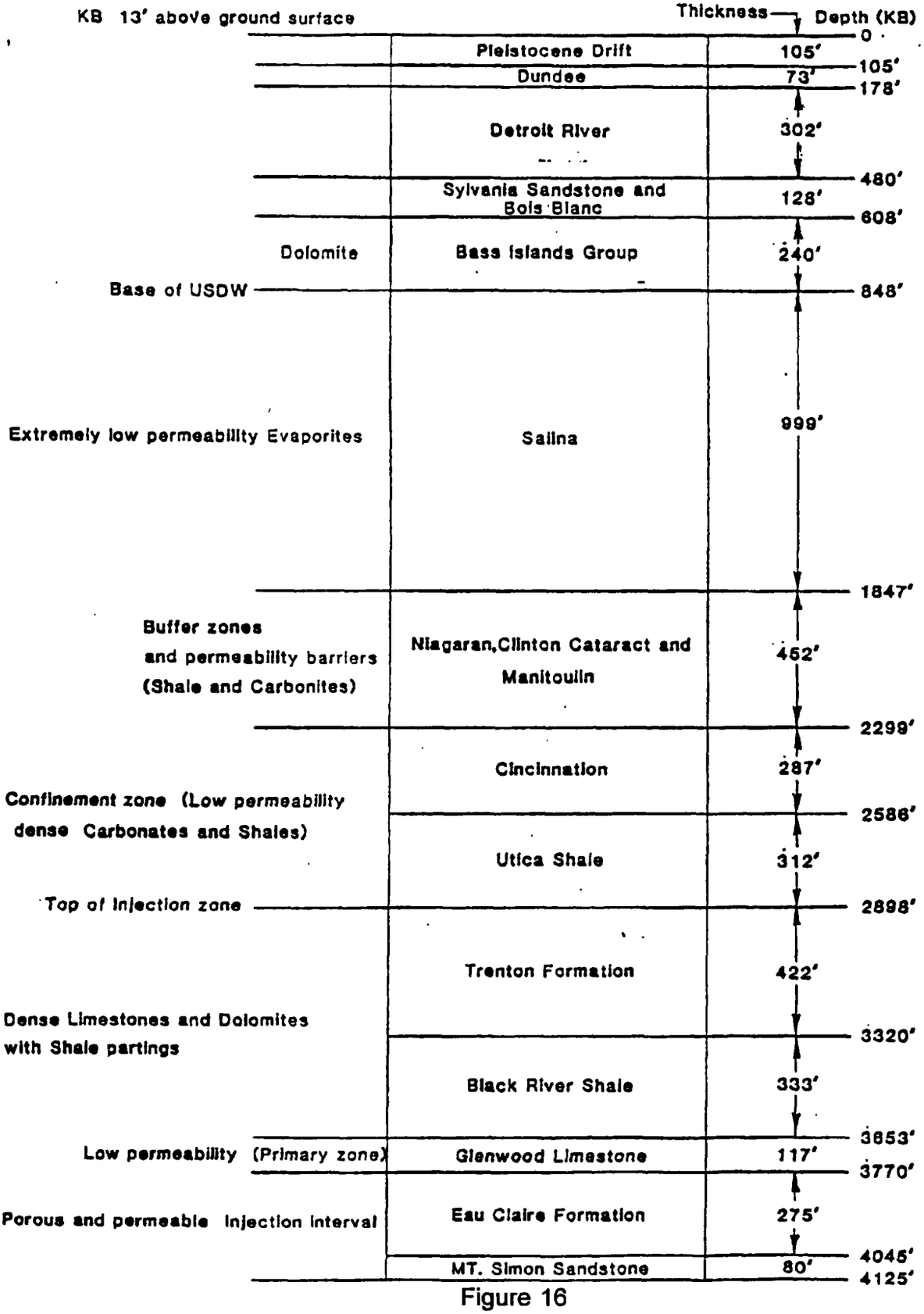


Figure 16

FIGURE 2

(○) CEMENT, VOLUMES, FLUIDS and HOLE SIZE

[ ] TUBULARS and COMPONENTS

(A) 12 3/4" Hole, Cemented to Surface

(B) 8 3/4" Hole, Cemented to Surface

(C) Annulus Fluid: Fresh Water Corrosion Inhibitor & Biostat

(D) Completion: Open Hole 8 3/4"

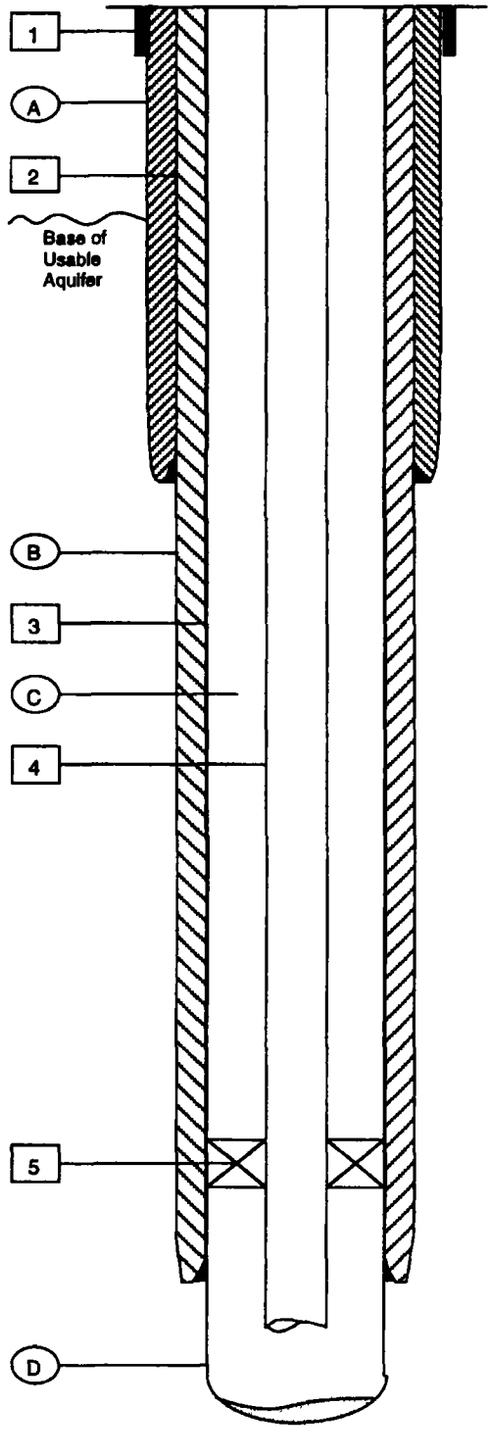
[1] Conductor Casing: 13 3/8" , 48 lb/ft, in ±17 1/2" Hole, Set @ ±113'

[2] Surface Casing: 9 5/8', 32 lb/ft Set @ 872'

[3] Protection Casing: 7 5/8", 26 lb/ft Set @ 3750'

[4] Injection Tubing: 4 1/2", 10.5 lb/ft, J-55, Set @ ± 3699'

[5] Packer: Baker AD-L 4 1/2" x 7" Retrievable, Top Set @ ± 3665'



Original TD ± 4127'

Notes:

1) All depths referenced to kelly bushing which is 12' above ground level.

2) Tubing and packer depths based on 1997 RAT log.

Petrotek Engineering Corporation

Figure 23

Detroit Coke Corporation

WELLBORE SCHEMATIC
WELL #3

MI-163-1W-0005

SCALE: NONE DATE: 11/97

FIGURE 3